Justice for pollution-victims in China and Australia

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ABSTRACT

The concept of environmental justice is well developed in North America, but is still at the evolutionary stage in most other jurisdictions around the globe. This paper seeks to explore two jurisdictions where incidents of environmental justice are likely to be seen in the future as a result of manufacturing and mining practices. The discussion will centre upon avenues to environmental justice for both private citizens and the public at large. The first jurisdiction considered is China, where environmental liability claims brought by Chinese citizens have increased at an annual average of 25% (Yang 2011). Manufacturing is at the core of the Chinese economy and is responsible for some of the unprecedented economic growth in the region. Less discussed are the industry impacts on water and air pollution levels and the associated implications of these pollutants on local communities. China introduced the Tort Liability Law (TLL) in 2010, which may provide avenues to justice for private citizens. The other jurisdiction considered by the paper is Australia, where the mining boom has buffered the Australian economy from the global financial crisis. There is some limited case law in Australia where private citizens have made a claim in toxic torts; however the framework is underdeveloped in terms of the significant risks facing indigenous and local communities in mining areas and also by comparison to the developments of the TLL framework in China. . This paper traces the regulatory responses to the affects of major industries on communities in China and Australia. From this it examines the need for environmental justice avenues that align with rule of law principles.

Background

Primarily, this paper is about unequal exposure to environmental pollution impacts in Australia and China experienced by vulnerable people or communities. It examines methods of pursuing environmental justice by affected parties. The following will introduce the goal and concept of environmental justice as a frame for distributional justice issues. From this starting point, the paper will compare and consider the Chinese and Australian legal responses to situations involving environmental justice issues. This work concludes by advocating for environmental justice avenues that provide clear, enforceable rights, which approach aligns with rule of law principles.

Environmental Justice

Environmental justice began as a social movement in North America and has since been incorporated as a guiding principle into US law and policy. The concept focuses on the equitable distribution of natural resources and environmental harms among different population groups. This type of analysis can examine income level, regional location or exposure to a certain hazardous sources. However, environmental justice is yet to have a firm legal definition. As such environmental justice is generally defined according the particular context in which the concept is being used to examine or shed light on a distributive justice assessment of natural resource regulation. Reflecting this, the US EPA's describes the concept as, "*The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environment laws, regulations and policies...It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn and work*" (US EPA 2013). Consequently, environmental justice stems from the human right to live in a healthy environment with access to adequate natural resources (Bullard 2005: 43).

A large body of research consistently illustrates that environmental and social inequalities are linked (e.g. Bullard 1990: 23). Accordingly, the impacts of pollution affect disproportionately on socially disadvantaged groups. Research contends that disadvantaged groups are more likely to be located in polluted neighbourhoods or in risk areas, and so these communities are more likely to have health issues related to toxins exposure (e.g. Banzhaf 2012: 14). For instance, Burningham and Walker (2011, 220), used a geographical information system in the UK and statistical methods. They determined that "...*if you are highly deprived you are more likely to live in a flood risk area, than others who are much less deprived". In addition, studies reveal that vulnerability to environmental hazards increases in marginalised communities due to social conditions such as inability to access health care* (e.g. Cutter 2012: 126-127). In line with this, Walker (2012: 46) acknowledges the impact of vulnerability and explains that "...*not all people are necessarily equally affected by an environmental burden*". For instance, studies suggest children in low-income communities are often more vulnerable to air pollution, as illustrated through the numbers of asthma attacks (Brown et al 2003). Importantly though, some scholars have highlighted that much empirical uncertainty still surrounds geographic patterns of unequal distributions and their health effects on disadvantaged groups (e.g. Bowen 2002).

Role of the Law in achieving Environmental Justice

The rule of law is an ideal that requires clear, enforceable rights and the supremacy of law over all other institutions (e.g. Flores and Himma 2012: 23). It is acknowledged that, while law at national and international levels can foster environmental justice, it has not reached its full potential (UNEP 2013).

Both public and private law can be used to address environmental injustices.

Public law can provide avenues to review Governmental decisions that may create environmental injustices. This comes under the umbrella of administrative law and would be applicable in scenarios such as where a Minister approves a development. Under administrative law, public interest litigation would be the tool to achieve a review of a Governmental decision. An example would be a non-governmental organisation seeking court review of a Minister's decision to determine if the decision aligns with the law. Another area of public law that can be relevant is criminal law. Walters has published extensively on this area, termed eco crime (See e.g. Walters 2010). Briefly, he describes it as "a term that seeks to harness existing illegalities or environmental offences defined by municipal and international law" (Walters 2008: 16).

Instead of public, this paper will focus on private law avenues to environmental justice. Private law such as litigation provides a critical medium for compensating victims, pursuing environmental justice and deterring future environmental harms (Kroll-Smith and Westervelt 2004: 183). However, litigation can pose difficulties for vulnerable people and communities as, for example, legal costs and evidentiary burdens often create insurmountable barriers.

This paper explores private litigation in China and Australia as part of the pursuit for environmental justice objectives. It suggests that precisely drafted, legally binding rules and institutional enforcement of the rules in practice is required in both Australia and China. This response aligns with rule of law principles and remains just one facet of working towards environmental justice. This paper seeks to explore:

1. What are the litigation-based avenues to environmental justice in China?
2. What are the litigation-based avenues to environmental justice in Australia?
3. How do the legal responses to environmental justice issues in China and Australia compare?
4. What is needed for Australia and China to effectively work towards environmental justice objectives?

Economic and Pollution Growth in China

Since large-scale economic reforms in the late 1970's, China has experienced breakneck growth towards a highly competitive market economy. Over the past 30 years, China's economy has doubled in size every seven to eight years and accounts for fifteen percent of global GDP (The Australian Treasury 2012). The manufacturing sector has played a particularly significant role in China's economic growth. For example, in 2011 the manufacturing sector provided 30% of China's GDP (The World Bank 2012). Chinese citizens have benefited from the economic growth through improved standards of living, for example, on average increases in food consumption and access to education (Nolan 2007:

5). It is estimated that this economic growth resulted in 250 million Chinese people no longer living in poverty (Stalley 2010:1).

But this accelerated rate of economic growth has also resulted in significant challenges with regard to pollution. China's industrialisation is a causal factor in a range of severe environmental damages to air, water and soil quality. It is also contributed to losses of biodiversity, wet lands and agricultural land. As an example, it has been estimated by the Chinese ministry that industries cause forty percent of water pollution and eighty percent of air pollution in China (Wang Hua et al 2004). The adverse impacts on health of Chinese citizens from environmental damage profoundly reveal the connection between humans and the natural world. The World Bank placed the number of Chinese people dying prematurely due to air and water pollution at 760,000 each year, yet some scholars have estimated that the figure is actually two million (The World Bank 2007; Orts 2002: 555). China's State Environmental Protection Agency ('SEPA') has revealed that seventy percent of the water in five of the seven major river systems is unsuitable for human contact (Briggs 2006). Additionally, a government report found that ten percent of China's farm soil has been contaminated with toxins, including lead, arsenic and mercury (Phillips 2013).

What is the legal framework for environmental regulation in China?

China's Government has a constitutional obligation to improve the living environment and control pollution (Article 26). This commitment, coupled with international pressure, have resulted in a variety of measures being taken, which aim to reduce the impact of pollution on health and environment. These measures are largely based on *Five-Year* plans that involve environmental and resource conservation targets; improved pollution monitoring, and increased investment in green technology (e.g. Shen 2013; National People's Congress of the People's Republic of China 2013). It has been suggested that there remains a significant gap between environmental regulations and the quality of the environment (Francesh-Huidobro et al 2012). This gap is perhaps illustrative of the limited rule of law in China.

Imposing liability for environmental harm forms part of China's multifaceted legal approach to environmental issues. A claim can be brought against a polluter either by a person directly impacted or by an organisation seeking to promote environmental law. This paper will focus on promoting environmental justice through the use of private citizen suits.

Environmental justice for Chinese pollution-victims: Private Interest Litigation

Before the TLL, provisions in Chinese law potentially allowed citizens to seek compensation from polluting companies. However, the law was applied inconsistently and created confusion for both judiciary and those involved in a claim (Yang and Moster, 2011). Main struggles experienced by pollution-victims included meeting the standard of proof required and overcoming ambiguous provisions (Faure and Weiqiang 2011). These struggles were aggravated by the power imbalance between the polluter's resources, such as, money and political favour, and the pollution-victim's relative poverty and poor health.

The TLL was a response to these issues and the consistently growing number of environmental lawsuits. The legislation explicitly outlines environmental liability, rights and obligations. In this way, as will be discussed, China's approach to environmental justice is far more developed than in Australia.

Strengths of the TLL

For China, the TLL is the first comprehensive legal avenue for victims of harm suffered by the actions of another. The legislation provides a range of rights and remedies for victims of not just environmental harm, but also, for example, those damaged by traffic accidents. It is explained that, "*Torts law adoption is acclaimed in China as a significant modern legislative achievement in civil rights protection*" (Zhang 2011: 418). Consequently, its introduction may reflect the increasingly significant role of rights-defending litigation and the rule of law in China.

The TLL has three main attributes that work towards environmental justice objectives.

The first attribute, contained in Article 1 of the TLL, provides that its purpose is to 'prevent and punish'. By including punishment as an objective, the TLL is potentially creating a strong deterrence effect, and this is particularly so when compared with Australian law in which the focus remains on compensating victims.

The second attribute, contained in Article 65, creates strict liability, that is, the polluter will be liable for pollution-damage even if it does not breach an environmental standard. While negligence imposes liability for a failure to exercise reasonable care, strict liability means that the polluter defendant would have to pay the victim for any harm (Coman 2012: 145). This approach contrasts with Australian law where a pollution-victim may need to prove that the polluter had intention or was careless before they could potentially access a remedy.

The third attribute, contained in Article 66, shifts the burden of proof from the pollution-victim to the polluter. After a victim plaintiff has proved that they have incurred damage by pollution, then it falls on the defendant polluter to disprove that their project caused the harm to the victim plaintiff (Peel 2009: 23). In some ways, this helps address the inequality between the polluter and pollution victim, as it is easier to prove harm suffered by providing, for example, a Doctor's certificate, than it is to prove the *cause* of the harm. This point will now be expanded upon.

It has been found that the lower-socioeconomic groups and rural communities of China are the most likely to experience severe harm from pollution (The World Bank 2007). A victim plaintiff is very unlikely to be anywhere near as informed, influential or wealthy as the polluter defendant. By requiring the polluter defendant to produce evidence, the pressure and responsibility is placed on the party who has better access to information and other resources (Crannor 1999: 81). Accordingly, the pollution victim no longer has to prove complex legal causation elements and this may enhance their ability to bring an action. As an example, in April 2009, a textile mill was ordered to pay compensation to a fish farm for harm that occurred over 15 years previously, as the textile mill could not disprove the allegations (Percival 2010: 44).

Additionally, the burden of proof shift reflects the use of international environmental law principles being adopted in China (Kelly 2012: 544). The precautionary principle is a method of decision-making first recommended at the *Rio Conference in 1992.* In the following declaration, Principle 15 described that, "*Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation*". Given the difficulties with establishing that an environmental harm caused damage, the shift in burden of proof can

help prevent uncertainty being used as a tool for polluters seeking to be unaccountable (Whiteside 2006). Moreover, it has been suggested that if a defendant polluter has the burden of proof they are more motivated to reduce the threats posed by their activities (Crannor 1999: 81).

Australia places the burden of proof on the alleged pollution-victim to prove complex legal causation matters. In this way, Australia can learn from China's legislative response to the power imbalances between polluters and pollution-victims.

Alleged defects for TLL

While the TLL in theory provides effective justice for pollution-victims, in practice China's systemic barriers to justice continue to hinder progress. A key barrier is that enforcement of the TLL. This issue reflects the overall weakness in China's governance system, in which enforceability is limited by corruption and an overriding desire for economic growth (Gang 2009). For the purposes of this discussion, these issues can be divided up into lack of independent court systems, local protectionism, mediation and transparency

Lack of an Independent Court System

Various factors result in China lacking an independent court system to enforce the TLL. Due to a historical and cultural focus on social values, collectivism and moral persuasion, China only relatively recently began to implement laws (e.g. Feng 2009). As a result, there is a lack of trained judges and legal professionals to assist in resolving disputes. For example, it was not until mid-2005 that fifty percent of judges in China held Bachelor Degrees (Liebman, 2007: 625). In addition, corruption is generally regarded as influential in civil court decisions. Courts are accountable to the section of government that created them, and are thus subject to supervision by Party Committee and Party organisations (Peerenboom, 2002: 280). In a similar vein, the funding system impacts on the independence of courts. Local courts are funded by and dependent on local governments for all expenses, including salaries and insurance for judges (Peerenboom 2002: 281; Kelley 2012: 539). This increases the likelihood of judges being influenced by the desires of others. Moreover, lack of enforcement of court decisions is a major, persisting issue due to the "...*continued intervention by party-state officials and administrative departments, an undeveloped credit system, and weak punishment for non-compliance with court orders*"(Liebman 2007: 625). The Chinese government is working to address these concerns, with recent reforms requiring new judges to sit a bar exam (Ding 2010).

Local Protectionism

Environmental rights, such as those contained in the TLL, are often not enforced due to a desire to protect local economic growth and to provide favouritism to enterprises with government connections (e.g. Wang 2011: 10895). Local leader's job performance and future promotion potential is measured according to economic growth of the region, and this creates a disincentive for promoting environmental protections that may interfere with industry (e.g. Gang 2009; Li 2012). Further, the local governments provide the funding for the environmental protection agency specific to their area, thus increasingly the likelihood that local government agendas will take priority (e.g. Gang 2009: 22; Francesh-Huidobro et al 2012). Recent research in the Kunming region revealed that, while the local government purports to support strict law enforcement, it will continue to allow industries to operate even

though they are not complying with the law, as the industries present an important source of local income (Van Rooij 2009: 27).

Preferences for Mediation

A cultural and historical focus on mediation for resolving disputes exists in China (Jieren 2011: 1068). This preference can present a barrier to justice for pollution-victims. Mediation does not have a binding outcome. Moreover, there is unequal bargaining power between a highly-resourced industry and an individual, likely disadvantaged victim. It has been noted that often "...*the stronger party may offer some money in exchange for the victims' acceptance of pollution*" and that this settlement tends to be "...*far less than proper compensation*" (Zhao, 2004: 160). In contrast to confidential mediation, litigation in the Chinese environmental law arena, can serve an important public awareness raising role, pressure administrative response, enhance deterrence effect on industries and expose legal gaps and injustices (Zhao, 2004: 174-175; Wang, 2011).

Transparency

Access to information about pollution and the encouragement of public participation is largely restricted in China, which in turn affects the enforceability of the TLL (e.g. Martin, 2011: 160). It was not until 1996 that environmental issues entered mainstream discourse in China (Li 2012: 29). Nevertheless, issues in relation to transparency are improving due to internet access as, for example, local environmental protection agencies have websites that contain information relating to the relevant region. Additionally, mainstream media and activist groups are increasingly drawing attention to climate change and the need for environmental protection (Gang 2009: 158). However, there are widespread instances of environmental activists being arrested for reasons such as, being a threat to national security (e.g. Watts 2010). As an example, Chinese activist Liu Futang was arrested last October for publishing information without a license when he distributed books about environmental protection (Richburg 2012). Additionally, transparency and accountability is severely hampered by the de-centralised nature of China's system of governance. A small, central government creates policy, and the implementation is left to the discretion of provinces and local governments (Rong 2011). Consequently, the local resistance to environmental justice claims may prevent progress.

It seems then that environmental justice requires rule of law ideals such as law as the supreme power over government. For the TLL to be an effective avenue to environmental justice, China's institutional and regulatory framework needs to be significantly acknowledged and improved. These changes may gradually unfold with the help of the emerging legal culture in China that emphasises rule of law principles (Delmas-Marty 2003: 28).

Economic Growth and Pollution in Australia

In contrast to China's manufacturing focus, Australia's economic growth is largely due to export revenue from mineral and energy sources. Mining contributes eleven per cent of Australia's GDP and employs over 220,000 Australians (DFAT 2012).

In recent years, unconventional gas extraction has become a large focus of the mining industry, particularly in Queensland where 40,000 new wells are forecasted for the next thirty

years. Unconventional gas includes coal seam gas ('CSG') and shale gas. To extract unconventional gas, drilling into the ground to loosen pressure and release gas is required, and stimulation techniques, like hydraulic fracturing ('fraccing') can be used. Fraccing, a process increasingly used in Queensland, involves pumping a mix of water, sand and chemicals into the ground to form cracks in rock formations which helps release gas and water.

The environmental and social impacts of this kind of extractive mining remain uncertain and incomprehensible. White explains that the responses by Australian regulators are "woefully inadequate to the task of either taking precaution or rectifying the harm that does occur" (2013: 60).

Generally, impoverished people in Australia are the most exposed to and harmed by, pollutant qualities. Millner (2011:192) outlined that, in Victoria, often toxic and hazardous waste sites have populations of lower socio-economic status and high unemployment. In terms of environmental liability, public health concerns tend to focus on the chemicals used in the extraction process that can contaminate water used for both drinking and agriculture (Hunter 2011: 10). In fact, there has been a string of contaminations in Queensland from CSG industries. As an example, in 2010 the Queensland Government gave environmental approval to a CSG company operating near Chinchilla to discharge the equivalent of eight Olympic sized swimming pools of 'treated water' into the nearby Condamine River. It has been established that this 'treated water' breaches EPA standards, as it is potentially toxic to aquatic organisms (Carlisle 2012). Moreover, in 2011, the Queensland Government investigated a gas field west of Brisbane after cancer-causing chemical traces were found at fives bores (Agius 2011).

The impact of unconventional gas extraction on air quality is also becoming a concern, particularly after the findings of a Colorado School of Public Health Study (McKenzie 2012). The data, based on three years of examinations, revealed that fraccing released potentially toxic hydrocarbons into the air, which have the potential to cause health problems ranging from headaches to acute childhood leukaemia to nearby residents (Kirkeleit et al. 2008).

In contrast to China, Australia does not have a constitutional right for state protection of environment nor do Australian pollution-victims have a legislative avenue to bring a claim against a polluting company causing harm. Moreover, no common law action exists for a concerned citizen or NGO to prevent or remedy actions from a polluter that harm the environment. In fact, Australia lacks a conceptual framework to consider environmental justice issues to government decision-making. It seems then that Australian laws may lack uniformity and participation in decision-making, which are all components of the rule of law (e.g. UN Secretary-General, 2004).

Environmental justice for Australian pollution-victims: Private Interest Litigation

Toxic torts are the only legal avenue private Australian citizens have to prevent or remedy pollution caused harm. The term 'toxic torts' is used to describe a variety of actions created by the courts to protect a private citizen's rights or interests and the protection of the environment is an unintended benefit (Mahncke 2013). Unlike China, Australia does not have a specific cause of action or particular evidentiary rules that provide for pollution-plaintiffs. As a result, pollution-plaintiffs are forced to manipulate their claim into one of the

following actions: torts of private or public nuisance, trespass to person or property and negligence.

Challenges to identifying a toxic tort claim

As a result of torts law being shaped by common law, it often takes a long time for the courts to adapt forms of liability. In addition, the clarity provided on a particular principle like environmental justice may be limited to specific circumstances before the judge. Moreover, unless decided by the High Court of Australia, any judicial decision that evolves toxic torts will only be of persuasive value outside its jurisdiction.

A lack of access to information and resource imbalances can result in communities being unable to recognise or act upon injustices. It has been observed that in Australia,

"*Communities impacted by environmental decisions need to be in the position to critically examine the information they obtain in order to be able to analyse the impacts on them and to seek to influence decisions regarding these impacts"* (EDO Victoria 2012: 32). Without information about the kinds of activities taking place nearby, residents may not connect the harms incurred to the local project or be aware of actions they could take to remedy the harm.

Challenges to pursuing a toxic tort claim

An often undefeatable issue pollution-plaintiffs face across these torts is establishing legal causation (Rychlak 1989 681). As a result, Lindgren (2010: 24) points out that pollution-victims "may be denied judicial redress due to the complex and controversial nature of their claims". Proving causation can be problematic both in making out an action and in calculating sufficient compensation. Collins (2008: 133) explains that, "*Because of the profound scientific uncertainty associated with toxic substances in the environment, it is frequently impossible for plaintiffs in toxic tort actions to prove causation of harm on a balance of probabilities*". This is particularly so where damage by disease is being claimed.

With this in mind, let's consider the industrial town of Gladstone, where CSG projects are underway and the rate of leukaemia is 108% higher than the whole of Queensland (Moran 2010). Could a person with leukaemia seek redress from the nearby industries? The answer is: probably not. Due to the lack of scientific evidence, a Gladstone resident would struggle to establish that a toxin caused their leukaemia (Moon 2012). Even if the Gladstone resident were able to identify a toxin as capable of causing leukaemia, the fact that the polluter's release of that toxin had caused leukaemia in that particular resident would still have to be established. It has been observed that, while medical science can confirm that exposure to particular toxins increase the risk of disease, it cannot confirm whether a toxin caused a person's disease in a particular case or even confirm whether the polluter's actions materially caused an illness (e.g. Adeney 1993).

Finally, it is likely that the Gladstone resident would have been exposed to other intervening factors, such as, living with a partner who smoked or having a family history of cancer. Collins (2008) outlined difficulties of proof experienced in toxic tort and these included that sickness often has multiple factors and there is potential for a long period between exposure and symptoms. Moreover, it can be difficult for a pollution-plaintiff to identify which polluter is

to blame, and this is particularly so where a number of polluters could have contributed, as is the case of industrial towns or climate change incurred damage (Preston 2009).

Pollution-plaintiffs will experience particular difficulties when trying to mould their pollution-caused harm into one of the specific toxic torts. For example, the elements of trespass to land require an interference with an owner's rights; however, the quality of groundwater or air has been held to not interfere with exclusive possession of property (Moon, 2012: 126). Another example is the tort of battery, where it must be shown that the polluter intended to release the toxins or had failed to exercise due care. This can be a difficult element to prove, and particularly where legislative requirements have not been breached.

It seems then that improving access to justice for Australian pollution-victims largely relies not in tort law but in novel legislative reforms. In this regard, China's TLL, particularly in relation to the burden of proof and strict liability, may provide an effective model. Australia should look to adopting a comprehensive liability system clarified in legislation that extends both private and public legal mechanisms (e.g. Lee 2002; Rosenberg 1984). This approach would provide legal certainty and address the unequal application of current environmental protection laws, thus moving Australia towards environmental justice aligned with rule of law principles.

Conclusion

The major industries in Australia and China are impacting on the health and well-being of citizens. As a result, environmental justice issues are likely to become a focus of both countries in the future. In terms of clear legal rules and addressing power imbalances, China has a highly developed legal response to environmental justice issues. However, this progress is perhaps limited by systemic issues in China's governance that reflect a weakness in rule of law principles. The failing in Australia's legal response lies not so much in enforcement, but more so in the clarity of laws and accessibility to courts. These problems emphasise the importance of the rule of law in achieving environmental justice. To pursue environmental justice then clear legal rules and enforceable rights are vital.

The reference list

Legislation

Environmental Protection Act 1994 (Qld).

Tort Law Liability 2010.

International sources

Report of the Secretary-General: The Rule of law and transitional justice in conflict and post conflict societies (Distr.: General No. S/2004/616), 2004. . United Nations Rule of Law.

Rio Declaration on Environment and Development. 1992. The United Nations Conference on Environment and Development, Rio de Janeiro. Rio de Janeiro. http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=78&ArticleID=1163.

Cases

Zhejiang Province Pinghu Normal Special Species Farm v. Jiaxing Buyun Dying and Chemical Factory. 2009. Supreme People's Court of the People's Republic of China.

Book

Banzhaf, S., 2012. *The Political Economy of Environmental Justice*. Stanford University Press, Palo Alto.

Bergkamp, L (2001) *Liability and environment: private and public law aspects of civil liability for environmental harm in an international context*. Martinus Nijhoff Publishers.

Bullard, R.D., 2000. *Dumping in Dixie: Race, Class, and Environmental Quality*. Westview Press.

Bullard R.D., *The quest for environmental justice: human rights and the politics of pollution*, 1st ed. ed, 2005. Sierra Club Books, San Francisco.

Burgh, H. and Z. Rong (2011) *China's Environment and China's Environment Journalists*. Bristol: Intellect Ltd.

Cutter, S.L., 2012. *Hazards Vulnerability and Environmental Justice*. Taylor and Francis, Hoboken.

Flores, I.B., Himma, K.E., 2012. *Law, Liberty, and the Rule of Law*, 1st ed. Springer, Dordrecht.

Gang, C (2009) *Politics of China's Environmental Protection : Problems and Progress*. Singapore: World Scientific Publishing Company.

Gleeson, B., Low, N., 2002. *Justice, Society and Nature: An Exploration of Political Ecology*. Routledge.

Goodden, R. L(2009) *Lawsuit! Reducing the risk of product liability for manufacturers*. New Jersey: John Wiley & Sons.

Martin, P., Z. Li and T. Qin (2012) *Environmental Governance and Sustainability.* Cheltenham: Edward Elgar Publishing.

Nolan, P (2007) *Integrating China : Towards the Coordinated Market Economy*. London, GBR: Anthem Press.

Peerenboom, R (2002) *China's Long March Toward Rule of Law*. West Nyack, NY, USA: Cambridge University Press.

Stalley, P (2010) *Foreign Firms, Investment, and Environmental Regulation in the People's Republic of China*. Palo Alto: Stanford University Press.

Tonts, M. and M. A. B. Siddique. (2011) *Globalisation, Agriculture and Development : Perspectives from the Asia-Pacific*. Cheltenham: Edward Elgar Publishing.

Walker, G., EBSCOhost, 2012. Environmental justice concepts, evidence and politics. Routledge, Abingdon, Oxon; New York.

Whiteside, K. H (2006) *Precautionary Politics : Principle and Practice in Confronting Environmental Risk*. Cambridge, MA, USA: MIT Press.

Journal Article

Adeney, E (1993) Challenge of Medical Uncertainty: Factual Causation in Anglo-Australian Toxic Tort Litigation. *Monash University Law Review* 19:23-38.

Attfield, R., 2009. Ecological issues of justice. *Journal of Global Ethics* 5, 147–154.

Bernstein, D (2008) Getting to Causation in Toxic Tort Cases. *Brooklyn Law Review* 74 (1):51-74.

Bowen, W., 2002. An Analytical Review of Environmental Justice Research: What Do We Really Know? *Environmental Management* 29, 3–15.

Briggs, A (2006) China's Pollution Victims: Still Seeking a Dependable Remedy. *Georgetown International Environmental Law Review* 18 (2):305-333.

Brown, T.P., Rushton, L., Mugglestone, M.A., Meechan, D.F., 2003a. Health effects of a sulphur dioxide air pollution episode. *J Public Health* 25, 369–371.

Bublick, E (2011) China's new tort law: the promise of reasonable care. *Asian-Pacific law & policy journal* 13 (1):36- 53.

Collins, L. M (2005) *Strange Bedfellows? The Precautionary Principle and Toxic Tort: A Tort Paradigm for the 21st Century*. Environmental Law Reporter 35.

Coman, H. (2012) Balancing the need for energy and clean water: The case for applying strict liability in Hydraulic Fracturing Suits. *Boston College Environmental Affairs Law Review* 39 (1):131-160.

Dai, Q. 2003. Informed Consent in China: Status Quo and its Future. *Medical Law International* 6 (1):53-71.

Delmas-Marty, M. (2003) Present-day China and the Rule of Law: Progress and Resistance. *Chinese Journal of International Law* 2(1): 11-28.

Ding, X. (2010) Reform of Legal Education in China and Japan: Shifting from the Continental to the American Model, *The Journal of Civil Liability Studies.* 3:111.

Douglas, R. (2006) Uses of standing rules in 1980-2006. *Australian Journal of Administrative Law* 14 (1):22.

Faure, M. and H. Weiqiang (2011) Towards a Reform of Environmental Liability in China: An Economic Analysis. *Asia Pacific Journal of Environmental Law* 13(2).

Gardner, P. A. and J. Lee (2012) Case note: Macquarie Generation v Hodgson [2011] NSWCA 424. *Australian Environment Review* 27 (9).

Goldman, P (2006-2007) Public Interest Environmental Litigation in China: Lessons Learned from the U.S Experience. *Vermont Journal of Environmental Law* 8.

Goodie, J (2008) Toxic Tort and the Articulation of Environmental Risk. *Law Text Culture* 12 (1).

Gray, P. (1999) Toxic Torts and Causation: Towards an Equitable Solution in Australian Law. *University of New South Wales Law Journal* 22 (1).

Green, D. and K. Ruddock (2008). Climate change impacts in the Torres Strait, Australia. *Indigenous Law Bulletin* 7 (8):2-6.

Grinlinton, D (1996) Property Rights and the Environment. *Australian Property Law Journal* 4.

Hu, J (2011) Grand Mediation in China. *Asian Survey* 51 (6):1065-1089.

Jans, J. H. and A. Marseille (2010) The role of NGOs in environmental litigation against public authorities: some observations on judicial review and access to court in the Netherlands*. Journal of environmental law* 22 (3):373-388.

Kallies, L. (2008) What price democracy? Blue Wedges and the hurdles to public interest environmental litigation. *Alternative Law Journal* 33 (4).

Kelley, J. E (2012) Seeking justice for pollution victims in China: why China should amend the tort liability law to allow punitive damages in environmental tort cases. *Seattle University Law Review* 35 (2):527..

Khan, M. A. and A. M. Ghouri (2011) Environmental Pollution: Its effects on life and its remedies. *Researchers World* 2 (2):276-285.

Kirkeleit, J., T. Riise, M. Bråtveit and B. Moen (2008) Increased risk of acute myelogenous leukemia and multiple myeloma in a historical cohort of upstream petroleum workers exposed to crude oil. *Cancer Causes & Control* 19 (1):13-23.

Kroll-Smith, S., Westervelt, S.D., 2004. People, Bodies and Biospheres: Nexus and the Toxic Tort. *Law & Policy* 26, 177–187.

Latham, M., V. E. Schwartz and C. E. Appel. The intersection of Tort and Environmental Law: Where the Twains should meet and depart. *Fordham Law Review* 80 (2):737-773.

Lazarus, R.J., 1992. Pursuing Environment Justice: The Distributional Effects of Environmental Protection. *Nw. U. L.* Rev. 87, 787.

Lee, M., 2002. Tort, regulation and environmental liability. *The Journal of the Society of Legal Scholars* 22, 33–52.

Liebman, B. L (2007) China's Courts: Restricted Reform. *The China Quarterly* (191):620-638.

Lisa, M., W. Roxana, N. Lee and A. John. (2012) Human health risk assessment of air emissions from development of unconventional natural gas *resources. Science of The Total Environmen*t 424 (0):79-87.

Lo, C. W. H., G. E. Fryxell and B. Van Rooij (2009) Changes in enforcement styles among environmental enforcement officials in China. *Environment and Planning A* 41 (11):2706-2723.

Mahncke, N. 2013. From the common law to legislation. Ed. B. Preston. Vol. C, *Local Government Planning & Environment NSW*. Sydney.

Maria, F.-H., C. W.-H. Lo and S.-Y. Tang (2012) The local environmental regulatory regime in China: changes in pro-environment orientation, institutional capacity, and external political support in Guangzhou. *Environment and Planning A 44* (10):2493-2511..

Mei, J.-A. (1932) China and the Rule of Law. *Pacific Affairs* 5 (10):863-872.

Millner, F. (2011) Access to environmental justice. *Deakin Law Review* 16 (1):189-207.

Mingde, C. and W. Fengyuan (2011) Environmental Public Interest Litigation in China. *Asia Pacific Law Review* 19 (2):217-235.

Mullady, R., S. Doyle, C. Fitzpatrick and A. Guarino (2012) Defending marcellus shale groundwater contamination claims: The case against class actions and other theories of liability. *Defense Counsel Journal* 79(2) ((2)).

Paul, M., L. Zhiping and Q. Tianbao (2012) *Environmental Governance and Sustainability*. Cheltenham: Edward Elgar Publishing.

Peel, J. (2009) Interpretation and Application of the Precautionary Principle: Australia's Contribution. *Review of European Community & International Environmental Law* 18 (1):11-25.

Percival, R. V (2010) Liability for environmental harm and emerging global environmental law. *Maryland journal of international law* 25:37.

Preston, H. J. B. J. (2009) Climate change litigation. *Environmental and Planning Law Journal* 26.

Rosenberg, D., 1984a. The Causal Connection in Mass Exposure Cases: A “Public Law” Vision of the Tort System. *Harvard Law Review* 97, 849–929.

Rhymes, C. M (2012) Environmental contamination as continuing trespass*. Environmental Law* 42 (4):1381.

Rychlak, R. (1989) Common Law Remedies for Environmental Wrongs: The role of Private Nuisance. *Mississippi Law Journal* 59:657-6698.

Skinner, J. P. a. M. (2007) Climate Change: The Potential for Liability. *Australian Mining and Petroleum Law Association Yearbook* 9.

Slater, A.-M., Pedersen, O.W., 2009. Environmental justice: lessons on definition an delivery from Scotland. *Journal of Environmental Planning and Management* 52, 797–812.

Tang, M. and K. Sun (2012) The Construction of China's Environmental Public Interest Litigation Mechanism. *Canadian Social Science* 8 (6):185-189.

Tucker, C (2012) Health concerns of 'fracking' drawing increased attention. *The Nation's Health* 42 (2):1-1,14.

Walker, G., Burningham, K., 2011. Flood risk, vulnerability and environmental justice: Evidence and evaluation of inequality in a UK context. *Critical Social Policy* 31, 216–240.

Wang, A (2010) Environmental Courts and Public Interest Litigation in China. *Chinese Law & Government* 43 (6):4-17.

Wanxin, L (2012) Advocating Environmental Interests in China. *Administration & Society* 44 (6):26S-42S.

White, R (2013) Resource Extraction Leaves Something Behind: Environmental Justice and Mining. *Crime Justice Journal* 2(1): 50-64.

Yang, T. and A. Moser (2011) Environmental Tort Litigation in China. *Environmental Law Review* 41.

Zhang, B. and M. Zhang (2012) Specialized Environmental Courts in China: Status Quo, Challenges and Responses. *Journal of Energy & Natural Resources Law* 30 (3):361-390.

Zhao, Y (2004) Environmental Dispute Resolution in China. *Journal of Environmental Law* 16 (2):157-192.

Government Reports

Bangguo, C. W (2013) *Work report of NPC Standing Committee BEIJING: The National People's Congress of the People's Republic of China.* http://www.npc.gov.cn/englishnpc/Chairman/2013-03/21/content_1789694.htm.

Coates B (2012) *China's emergence in global commodity markets*, published by The Australian Treasury. Canberra.

Department of Foreign Affairs and Trade Canberra (2012) *Trade Matters 2012 Australia: Trading with the World*. Available at http://www.dfat.gov.au/tradematters/.

Hunter, T. 2011. Regulation of Shale, Coal Seam and Tight Gas Activities in Western Australia Final: An analysis of the capacity of the Petroleum and Geothermal Energy Act 1967 (WA) to regulate onshore gas activities in Western Australia. Perth: Western Australia Department of Mines and Petroleum. http://www.dmp.wa.gov.au/documents/000041.jason.medd(1).pdf.

People's Republic of China (2011) *12th Five-Year Plan*. http://www.eu-china.net/web/cms/upload/pdf/materialien/11-06-30_12th-Five-Year-Plan-China-english.pdf.

Newspaper Articles

Agius, K (2011) *Carcinogens found in CSG project*. Sydney Morning Herald, August 28.

Banerjee, N (2012) *Air pollution limits put on Hydraulic Fracturing*. South Florida Sun - Sentinel. Available at

http://gateway.library.qut.edu.au/login?url=http://search.proquest.com/docview/1002870278?accountid=13380 (accessed 12 March 2013).

BIRNBAUER, B., D. D. CARTERET, K. MORRELLE, S. PETROVA and C. VANESTROP. 2012. *Widespread breaches of EPA waste discharge conditions: study. Dangerous Ground: EPA's Toxic Legacy.* Available at http://artsonline.monash.edu.au/dangerousground/ (Accessed on 12 March 2013).

Carlisle, W (2012) *Queensland reveals Condamine water quality report.* ABC, November 24.

Gregory, P (2008) Blue Wedges may pay costs. The Age, August 7.

Hong'e, M (2012) *China Exclusive: Landmark lawsuit demands compensation for pollution victims*. Xinhua News Agency, May 24.

Moran, K. (2010) *Cancer Cases Scare Residents.* The Observer, 6 December.

Phillips, T (2013) *China's countrymen struggling with a 'sick' Mother Earth*. The Telegraph, February 23.

Platt, K. H. (2007) *Chinese Air Pollution Deadliest in World Report Says.* In National Geographic Beijing, China.

Richburg, K (2012) *Chinese environmental activist faces prison sentence for publishing books*. The Washington Post, March 3.

Shen, F (2013) Deadly China Pollution Breathes New Life Into Solar Debt. Bloomberg, February 7.

South China Morning Post (2011) *Let public defend their own interests: Tentative steps to opening the courts to civil class actions are welcome but do not go far enough.* Available at http://search.proquest.com.ezp01.library.qut.edu.au/docview/909150339# (accessed 1 March 2013).

Watts, J (2010) Chinese government urged to release Tivetan environmental activists. The Guardian, June 11.

Websites

Feng, Y.(2009) *Legal Culture in China: A comparison to Western Law*. Comparative Law class Victoria University of Wellington. Available at http://www.victoria.ac.nz/law/nzacl/PDFS/Vol_15_2009/01%20Feng.pdf (Accessed on 27 March 2013).

Tun Lin, C. W., Yi Chen, Trisa Camacho, and Fen Lin (2009) *Green Benches: What can the People's Republic of China Learn from Environment Courts of Other Countries?* Mandaluyong City, Philippines: Asian Development Bank. Available at http://www.adb.org/sites/default/files/pub/2009/Green-Benches.pdf (accessed 15 March 2013).

Wang, A. (2011) *Green litigation in China today*. ChinaDialogue. Available at http://www.chinadialogue.net/article/show/single/en/4413 (accessed on 14 March 2013)

The World Bank (2012) *Manufacturing, value added (% of GDP).* Available at http://data.worldbank.org/indicator/NV.IND.MANF.ZS (accessed 4 April 2013).